What Is Claimed Is:

1. A method for monitoring at least two electromagnetic valves (11, 12) of an internal combustion engine in a motor vehicle in particular, in which an actual current that is independent of the other valves (12) is sent to each valve (11) and in which a setpoint current (I_{11}, I_{12}) is preselected for each valve, wherein a total actual current ($I_{addactual}$, I_{actual}), which is supplied to the valves (11, 12), is determined; the setpoint currents (I_{11}, I_{12}) are added to form a total setpoint current ($I_{addsetpoint}$); the total setpoint current ($I_{addsetpoint}$) is compared to the total actual current ($I_{addactual}$, I_{actual}); and the comparison is used for monitoring the valves (11, 12) and/or their interconnection.

2. The method as recited in Claim 1, wherein the actual currents supplied to the valves (11, 12) are measured by at least two measuring devices (17, 18) and added to form the total actual current ($I_{addactual}$).

3. The method as recited in Claim 1, wherein the actual currents supplied to the valves (11, 12) are measured by a single measuring device (17) and used further as the total actual current (I_{actual}).

4. The method as recited in one of the preceding claims, wherein a holding current (c) via which the corresponding valve (11, 12) is held in an end position in a stable manner is used as the actual current.

5. The method as recited in Claim 4, wherein a quenching current (d), which results from the electric energy remaining in the valve (11, 12) after shutdown of the holding current (c), is used as the actual current.

6. The method as recited in one of the preceding claims, wherein a fault in one of the valves (11, 12) is deduced from

a difference between the total setpoint current ($I_{addsetpoint}$) and the total actual current ($I_{addactual}$, I_{actual}).

7. The method as recited in Claim 6, wherein, in chronologically successive measurements and comparisons, the faulty valve (11, 12) is deduced from the instant when the difference occurs.

8. A computer program having program commands suitable for executing a method as recited in one of Claims 1 through 7 when the computer program is running on a computer.

9. A digital memory medium including a computer program having program commands suitable for executing a method as recited in one of Claims 1 through 7.

10. A device for monitoring at least two electromagnetic valves (11, 12) of an internal combustion engine of a motor vehicle in particular, an actual current that is independent of the other valves (12) being suppliable to each valve (11), and a setpoint current (I_{11}, I_{12}) being preselected for each valve (11, 12), wherein means are provided via which a total actual current ($I_{addactual}$, I_{actual}), which is supplied to the valves (11, 12), is determined; the setpoint currents (I_{11}, I_{12}) are added by a control unit (19) to form a total setpoint current ($I_{addsetpoint}$) and compared to the total actual current ($I_{addactual}$, I_{actual}); and the comparison is used by the control unit (19) for monitoring the valves (11, 12) and/or their interconnection.

11. The device as recited in Claim 10, wherein at least two measuring devices (17, 18) are provided via which the actual currents supplied to the valves (11, 12) are measurable, and the measured actual currents are added by the control unit (19) to form the total actual current ($I_{addactual}$).

12. The device as recited in Claim 10, wherein a single measuring device (17) is provided via which the currents supplied to the valves (11, 12) are measurable, and the measured actual currents are used further by the control unit (19) as the total actual current (I_{actual}).

13. The device as recited in one of Claims 10 through 12, wherein d.c. converters (13, 14) are provided and generate the actual currents supplied to the valves (11, 12).

14. The device as recited in one of Claims 10 through 13, wherein an output stage (20) is provided via which the actual currents supplied to the valves (11, 12) are controlled.

15. The device as recited in Claim 14, wherein the output stage (20) has switches (S1, S2), which are switchable by the control unit (19).

16. A method or computer program or digital memory medium or device as recited in one of the preceding claims, wherein any other electric consumers may be used instead of the valves (11, 12).